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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,685	12/17/2001	Young-ran Song	1293.1296	2581

21171 7590 12/19/2003

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EXAMINER

MARTINEZ, JOSEPH P

ART UNIT PAPER NUMBER

2873

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,685

Applicant(s)

SONG ET AL.

Examiner

Joseph P. Martinez

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M.W.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Allowable Subject Matter***

The indicated allowability of claims 1-57 is withdrawn in view of the newly discovered reference(s) to Jachimowicz et al. (5224198) and David (6577411). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 35, 50 and 57 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Jachimowicz et al. (5224198).

Re claims 1, 35, 50 and 57, Jachimowicz et al. teach for example, a wearable display system having a monocular structure (fig. 10A) comprising: a display panel (image generating apparatus 45, fig. 4) placed on the waveguide to output at least one signal, comprising: at least one waveguide (waveguide 42, fig. 4) to guide a propagation of the at least one signal output from the at least one display panel; a plurality of gratings (diffraction gratings 46 and 47, fig. 4) to diffract the at least one signal propagating through the at least one waveguide; wherein a first grating to diffract the signal output from the display panel and incident upon the first grating at a predetermined incidence angle, at a predetermined diffraction angle in either a first direction, or a second direction opposite the first direction, of the waveguide; a second grating to diffract the signal propagating through the waveguide and incident upon the second grating at the

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predetermined diffraction angle at the first grating, at the predetermined incidence angle at the first grating; and at least one magnifying lens (magnifying lens 25, fig. 1A, col. 3, ln. 28-32, wherein the office interprets the use of a magnifying lens as disclosed in fig. 1A to be used in the embodiment shown in fig. 4) to magnify the at least one signal diffracted by at least one of the plurality of gratings.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-6, 36-43 and 51-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jachimowicz et al. (5224198).

Re claims 2-6, 36-43 and 51-55, Jachimowicz et al. teach the wearable display system as disclosed above, including gratings that reflect (diffraction grating 46, fig. 4), diffract (col. 2, ln. 27-40) and transmit (diffraction grating 47, fig. 4) in various configurations (figs. 1A, 4, 5, 6, 7, 8, 9, 10B and 11), but fail to explicitly teach the claimed arrangement of components within the device. However, the office interprets the teachings of Jachimowicz et al. to disclose the individual components of the wearable display system and suggests various arrangements of the components (figs. 1A and 4-11). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to rearrange gratings that reflect, diffract and transmit, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. Furthermore, it would have been obvious to one of

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ordinary skill in the art at the time the invention was made to rearrange the components of the wearable display system for space savings.

Claims 7, 9-18, 20-33, 44-48 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jachimowicz et al. (5224198) in view of David (6577411).

Re claims 7-33, 44-49 and 56, Jachimowicz et al. teach the wearable display system as disclosed above, including gratings that reflect (diffraction grating 46, fig. 4), diffract (col. 2, ln. 27-40) and transmit (diffraction grating 47, fig. 4) in various configurations (figs. 1A, 4, 5, 6, 7, 8, 9, 10B and 11), but fail to implicitly teach a binocular structure or a shutter to alternately block the signals in the waveguide to produce a three-dimensional image. However, David teaches for example, a binocular structure (fig. 8, col. 14, ln. 9-18) or a shutter (blocking mechanism 70, figs. 4a-c, col. 15, ln. 60-67 to col. 16, ln. 1-9) to alternately block the signals in the waveguide to produce a three-dimensional image. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to rearrange gratings that reflect, diffract and transmit, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Jachimowicz et al. with David in order to provide a binocular view and a three dimensional view in order to simultaneously direct light into both eyes from two scenes.

Re claims 8, 19, 33 and 49, Jachimowicz et al. in view of David teach the wearable display system as disclosed above, including the use of glasses (Jachimowicz et al., frame 105, fig. 10A and David, headset 300, fig. 8), but fail to implicitly teach the magnifying lenses are

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movable along a predetermined length of the waveguide. Official Notice taken. It is well known in the art of frames and framed glasses to be able to move the lenses along a predetermined path for adjustability. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to move the magnifying lenses along a predetermined path in order to accommodate different users.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 703-305-0577. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on 703-308-4883. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-4883.

JPM
12-4-03


Hung Xuan Dang
Primary Examiner